國立中山大學應用數學系
學術演講

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講　題：Connectededness Structure of　the Solution Sets of Vector Variational Inequalities and Vector Optimization Problems via a Theorem from Real Algebraic Geometry

時　間：2016/11/10（星期四）16:10～17:00

地　點：理學院四樓理 SC 4009-1 室

茶　會：15:30 於理 SC 4010 室（系辦公室）

摘　要

By a scalarization method and properties of semi-algebraic sets, it is proved that both the Pareto solution set and the weak Pareto solution set of a vector variational inequality, where the constraint set is polyhedral convex and the basic operators are given by polynomial functions, have finitely many connected components. We also prove that both the proper Pareto solution set and the weak Pareto solution set of a vector variational inequality, where the convex constraint set is given by polynomial functions and all the components of the basic operators are polynomial functions, have finitely many connected components, provided that the Mangasarian-Fromovitz Constraint Qualification is satisfied at every point of the constraint set.

In addition, if the proper Pareto solution set is dense in the Pareto solution set, then the latter also has finitely many connected components.

Consequences of the results for vector optimization problems are discussed in details.

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